

*If you are using a printed copy of this procedure, and not the on-screen version, then you **MUST** make sure the dates at the bottom of the printed copy and the on-screen version match. The on-screen version of the Collider-Accelerator Department Procedure is the Official Version. Hard copies of all signed, official, C-A Operating Procedures are kept on file in the C-A ESHQ Training Office, Bldg. 911A.*

## C-A OPERATIONS PROCEDURES MANUAL

### 4.120.81.b Tandem Gate Tests

#### Attachment

C-A-OPM Procedures in which this Attachment is used.		
4.120.81		

#### Hand Processed Changes

<u>HPC No.</u>	<u>Date</u>	<u>Page Nos.</u>	<u>Initials</u>
_____	_____	_____	_____
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Approved:                     *Signature on File*                     \_\_\_\_\_  
 Collider-Accelerator Department Chairman                      Date

V. Castillo

**PASS SEMI-ANNUAL ACCEPTANCE TEST PROTOCOL**

Division A Software Filename and Checksum: Title: \_\_\_\_\_ Checksum: \_\_\_\_\_

Division B Software Filename and Checksum: Title: \_\_\_\_\_ Checksum: \_\_\_\_\_

**Initial testing complete:**

Test Team Leader's Name (Print): \_\_\_\_\_ Life Number: \_\_\_\_\_

Test Team Leader's Name (Sign): \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**Acceptance test procedure complete (following repairs and retesting if required):**

Test Team Leader's Name (Print): \_\_\_\_\_ Life Number: \_\_\_\_\_

Test Team Leader's Name (Sign): \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**Test results reviewed by:**

Safety Section Head's Name (Print): \_\_\_\_\_ Life Number: \_\_\_\_\_

Safety Section Head's Name (Sign): \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

**Test results accepted by Radiation Safety Committee:**

RSC Member's Name (Print): \_\_\_\_\_ Life Number: \_\_\_\_\_

RSC Member's Name (Sign): \_\_\_\_\_ Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

1.1 CONDUCT Visual check on **Tandem** gates following Table-1, below

<u>Gate</u>	<u>Micro Switch</u>		<u>Elec Wiring</u>	<u>Gate Box</u>	<u>Lights</u>	<u>Gate Functions</u>			Verify all x's Corr.	Inspn O.K. <u>Init.</u>
	<u>Align</u>	<u>Opern</u>				<u>Open</u>	<u>Self-Closing</u>	<u>Latch</u>		
<b>TTB</b>							N/A	N/A	<input type="checkbox"/>	
<b>TR4PG</b>									<input type="checkbox"/>	
<b>TR4ES</b>									<input type="checkbox"/>	
<b>TR2SH</b>							N/A	N/A	<input type="checkbox"/>	
<b>EEPSG</b>							N/A	N/A	<input type="checkbox"/>	
<b>TCRPL</b>							N/A	N/A	<input type="checkbox"/>	
<b>TCRSH</b>							N/A	N/A	<input type="checkbox"/>	
<b>MERES</b>							N/A	N/A	<input type="checkbox"/>	
<b>MERSH</b>							N/A	N/A	<input type="checkbox"/>	

Legend: Tick = O.K. x = Problem N/A = Not Applicable

**Table 1: Summary of Physical Inspection of Tandem Gates**

1.2 Test of Tandem to Booster (TTB) Gate:

- ☐ **VERIFY** TTB gate has been inspected
- ☐ **OPEN** TTB gate
- ☐ **CLOSE** Div A and Div B **Micro Switch (MS)**
- ☐ **VERIFY** At TTB gate box **Door Closed** light **ON**
- ☐ **VERIFY** Tandem Control Room (TCR) sees TTB gate **CLOSED**
- ☐ **OPEN** Div A MS
- ☐ **VERIFY** At TTB gate box **Door Closed** light **OFF**
- ☐ **CLOSE** Div A MS
- ☐ **VERIFY** At TTB gate box **Door Closed** light **ON**
- ☐ **OPEN** Div B MS
- ☐ **VERIFY** At TTB gate box **Door Closed** light **OFF**
- ☐ **VERIFY** TCR sees TTB gate **CLOSED**
- ☐ **OPEN** Div B MS
- ☐ **VERIFY** At TTB gate box **Door Closed** light **OFF**
- ☐ **VERIFY** TCR sees TTB gate **OPEN**
- ☐ **CLOSE** Div A and Div B MS
- ☐ **VERIFY** At TTB gate box **Door Closed** light is **ON**
- ☐ **VERIFY** TCR sees TTB gate **CLOSED**
- ☐ **CLOSE** TTB gate
- ☐ **VERIFY** TCR sees TTB gate **CLOSED**
- ☐ **VERIFY** At TTB gate box **Gate Reset** light is **OFF**
- ☐ **VERIFY** TCR sees TTB gate Div A ☐ and Div B ☐ **NOT RESET**
- ☐ **RESET** TTB gate at TTB gate box with **Key # MS11**
- ☐ **VERIFY** At TTB gate box **Gate Reset** light is **ON**
- ☐ **VERIFY** TCR sees TTB gate Div A ☐ and Div B ☐ **RESET**

- |                          |               |  |                         |
|--------------------------|---------------|--|-------------------------|
|                          | <b>OPEN</b>   | <u>TTB gate and hold open</u>  |                         |
| <input type="checkbox"/> | <b>VERIFY</b> | At TTB gate box <b>Gate Reset</b> light is   | <b>OFF</b>              |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees TTB gate</u>   | <b>OPEN</b>             |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees TTB gate Div A <input type="checkbox"/> and Div B <input type="checkbox"/></u> | <u><b>NOT RESET</b></u> |
|                          | <b>CLOSE</b>  | TTB gate   |                         |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees TTB gate</u>   | <b>CLOSED</b>           |
- ☐ Check for acceptance of Test of Tandem to Booster (TTB) Gate.

**1.3 Test of Target Room 4 Passageway Door (TR4PG) Door:**

- |                          |               |  |                         |
|--------------------------|---------------|--|-------------------------|
| <input type="checkbox"/> | <b>VERIFY</b> | TR4PG gate has been inspected  |                         |
|                          | <b>OPEN</b>   | TR4PG gate   |                         |
|                          | <b>CLOSE</b>  | Div A MS   |                         |
| <input type="checkbox"/> | <b>VERIFY</b> | At TR4PG gate box <b>Door Closed</b> light   | <b>OFF</b>              |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>Tandem Control Room (TCR) sees TR4PG gate</u>   | <b>OPEN</b>             |
|                          | <b>OPEN</b>   | <u>Div A MS</u>  |                         |
| <input type="checkbox"/> | <b>VERIFY</b> | At TR4PG gate box <b>Door Closed</b> light   | <b>OFF</b>              |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees TR4PG gate</u>   | <b>OPEN</b>             |
|                          | <b>CLOSE</b>  | Div B MS   |                         |
| <input type="checkbox"/> | <b>VERIFY</b> | At TR4PG gate box <b>Door Closed</b> light   | <b>OFF</b>              |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees TR4PG gate</u>   | <b>CLOSED</b>           |
|                          | <b>OPEN</b>   | <u>Div B MS</u>  |                         |
| <input type="checkbox"/> | <b>VERIFY</b> | At TR4PG gate box <b>Door Closed</b> light   | <b>OFF</b>              |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees TR4PG gate</u>   | <b>OPEN</b>             |
|                          | <b>CLOSE</b>  | Div A and Div B MS   |                         |
| <input type="checkbox"/> | <b>VERIFY</b> | At TR4PG gate box <b>Door Closed</b> light is  | <b>ON</b>               |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees TR4PG gate</u>   | <b>CLOSED</b>           |
|                          | <b>CLOSE</b>  | TR4PG gate   |                         |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees TR4PG gate</u>   | <b>CLOSED</b>           |
| <input type="checkbox"/> | <b>VERIFY</b> | At TR4PG gate box <b>Gate Reset</b> light is   | <b>OFF</b>              |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees TR4PG gate Div A <input type="checkbox"/> and Div B <input type="checkbox"/></u> | <u><b>NOT RESET</b></u> |
|                          | <b>RESET</b>  | TR4PG gate at TR4PG gate box with <b>Key # MS11</b>  |                         |
| <input type="checkbox"/> | <b>VERIFY</b> | At TR4PG gate box <b>Gate Reset</b> light is   | <b>ON</b>               |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees TR4PG gate Div A <input type="checkbox"/> and Div B <input type="checkbox"/></u> | <u><b>RESET</b></u>     |
|                          | <b>OPEN</b>   | <u>TR4PG gate and hold open</u>  |                         |
| <input type="checkbox"/> | <b>VERIFY</b> | At TR4PG gate box <b>Gate Reset</b> light is   | <b>OFF</b>              |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees TR4PG gate</u>   | <b>OPEN</b>             |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees TR4PG gate Div A <input type="checkbox"/> and Div B <input type="checkbox"/></u> | <u><b>NOT RESET</b></u> |
|                          | <b>CLOSE</b>  | TR4PG gate   |                         |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees TR4PG gate</u>   | <b>CLOSED</b>           |

- ☐ Check for acceptance of Test of Target Room 4 Passageway (TR4PG) Door.

<b>1.4 Test of TR4 Entry and Shield (TR4ES) Doors:</b>			
<input type="checkbox"/>	<b>VERIFY</b>	TR4ES doors have been inspected	
	<b>OPEN</b>	TR4 Shield door and <b>Hold open</b>	
	<b>OPEN</b>	TR4 Entry door and Test MSs	
	<b>CLOSE</b>	Div A MS	
<input type="checkbox"/>	<b>VERIFY</b>	At TR4ES gate box <b>Entry Door Closed</b> light	<b>OFF</b>
<input type="checkbox"/>	<b>VERIFY</b>	<u>Tandem Control Room (TCR) sees TR4 Doors</u>	<b>OPEN</b>
	<b>OPEN</b>	<u>Div A MS</u>	
<input type="checkbox"/>	<b>VERIFY</b>	At TR4ES gate box <b>Entry Door Closed</b> light	<b>OFF</b>
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees TR4 Doors</u>	<b>OPEN</b>
	<b>CLOSE</b>	Div B MS	
<input type="checkbox"/>	<b>VERIFY</b>	At TR4ES gate box <b>Entry Door Closed</b> light	<b>OFF</b>
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees TR4 Doors</u>	<b>OPEN</b>
	<b>OPEN</b>	<u>Div B MS</u>	
<input type="checkbox"/>	<b>VERIFY</b>	At TR4ES gate box <b>Entry Door Closed</b> light	<b>OFF</b>
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees TR4 Doors</u>	<b>OPEN</b>
	<b>CLOSE</b>	Div A and Div B MS	
<input type="checkbox"/>	<b>VERIFY</b>	At TR4ES gate box <b>Entry Door Closed</b> light is	<b>ON</b>
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees TR4 Doors</u>	<b>OPEN</b>
	<b>CLOSE</b>	TR4 Entry door	
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees TR4 Doors</u>	<b>OPEN</b>
	<b>OPEN</b>	<u>TR4 Entry Door and hold open</u>	
	<b>OPEN</b>	TR4 Shield door and Test MSs	
	<b>CLOSE</b>	Div A MS	
<input type="checkbox"/>	<b>VERIFY</b>	At TR4ES gate box <b>Shield Door Closed</b> light	<b>OFF</b>
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees TR4 Doors</u>	<b>OPEN</b>
	<b>OPEN</b>	<u>Div A MS</u>	
<input type="checkbox"/>	<b>VERIFY</b>	At TR4ES gate box <b>Shield Door Closed</b> light	<b>OFF</b>
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees TR4 Doors</u>	<b>OPEN</b>
	<b>CLOSE</b>	Div B MS	
<input type="checkbox"/>	<b>VERIFY</b>	At TR4ES gate box <b>Shield Door Closed</b> light	<b>OFF</b>
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees TR4 Doors</u>	<b>OPEN</b>
	<b>OPEN</b>	<u>Div B MS</u>	
<input type="checkbox"/>	<b>VERIFY</b>	At TR4ES gate box <b>Shield Door Closed</b> light	<b>OFF</b>
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees TR4 Doors</u>	<b>OPEN</b>
	<b>CLOSE</b>	Div A and Div B MS	
<input type="checkbox"/>	<b>VERIFY</b>	At TR4ES gate box <b>Shield Door Closed</b> light is	<b>ON</b>
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees TR4 Doors</u>	<b>OPEN</b>
	<b>CLOSE</b>	TR4 Shield door	
	<b>CLOSE</b>	<u>TR4 Entry Door</u>	
<input type="checkbox"/>	<b>VERIFY</b>	At TR4ES gate box <b>Entry Door Closed</b> light is	<b>ON</b>
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees TR4 Doors</u>	<b>CLOSED</b>
<input type="checkbox"/>	<b>VERIFY</b>	At TR4ES gate box <b>Gate Reset</b> light is	<b>OFF</b>
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees TR4 Doors Div A <input type="checkbox"/> and Div B <input type="checkbox"/></u>	<b>NOT RESET</b>

	<b>RESET</b>	TR4ES gate at TR4ES gate box with Key # MS11	
<input type="checkbox"/>	<b>VERIFY</b>	At TR4ES gate box Gate Reset light is	<b>ON</b>
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees TR4 Doors Div A <input type="checkbox"/> and Div B <input type="checkbox"/></u>	<b><u>RESET</u></b>
	<b>OPEN</b>	<u>TR4 Entry Door and hold open</u>	
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees TR4 Doors</u>	<b>OPEN</b>
<input type="checkbox"/>	<b>VERIFY</b>	At TR4ES gate box Gate Reset light is	<b>OFF</b>
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees TR4 Doors Div A <input type="checkbox"/> and Div B <input type="checkbox"/></u>	<b><u>NOT RESET</u></b>
	<b>CLOSE</b>	TR4 Entry Door	
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees TR4 Doors</u>	<b>CLOSED</b>
	<b>RESET</b>	TR4ES gate at TR4ES gate box with Key # MS11	
<input type="checkbox"/>	<b>VERIFY</b>	At TR4ES gate box Gate Reset light is	<b>ON</b>
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees TR4 Doors Div A <input type="checkbox"/> and Div B <input type="checkbox"/></u>	<b><u>RESET</u></b>
	<b>OPEN</b>	<u>TR4 Shield Door and hold open</u>	
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees TR4 Doors</u>	<b>OPEN</b>
<input type="checkbox"/>	<b>VERIFY</b>	At TR4ES gate box Gate Reset light is	<b>OFF</b>
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees TR4 Doors Div A <input type="checkbox"/> and Div B <input type="checkbox"/></u>	<b><u>NOT RESET</u></b>
	<b>CLOSE</b>	TR4 Shield Door	

- ☐ Check for acceptance of Test of TR4 Entry and Shield (TR4ES) Doors.

**1.5 Test of Target Room 2 Shield (TR2SH) Door:**

<input type="checkbox"/>	<b>VERIFY</b>	TR2SH gate has been inspected	
	<b>OPEN</b>	TR2SH gate	
	<b>CLOSE</b>	Div A MS	
<input type="checkbox"/>	<b>VERIFY</b>	At TR2SH gate box Door Closed light	<b>OFF</b>
<input type="checkbox"/>	<b>VERIFY</b>	<u>Tandem Control Room (TCR) sees TR2SH gate</u>	<b>OPEN</b>
	<b>OPEN</b>	Div A MS	
<input type="checkbox"/>	<b>VERIFY</b>	At TR2SH gate box Door Closed light	<b>OFF</b>
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees TR2SH gate</u>	<b>OPEN</b>
	<b>CLOSE</b>	Div B MS	
<input type="checkbox"/>	<b>VERIFY</b>	At TR2SH gate box Door Closed light	<b>OFF</b>
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees TR2SH gate</u>	<b>CLOSED</b>
	<b>OPEN</b>	Div B MS	
<input type="checkbox"/>	<b>VERIFY</b>	At TR2SH gate box Door Closed light	<b>OFF</b>
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees TR2SH gate</u>	<b>OPEN</b>
	<b>CLOSE</b>	Div A and Div B MS	
<input type="checkbox"/>	<b>VERIFY</b>	At TR2SH gate box Door Closed light is	<b>ON</b>
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees TR2SH gate</u>	<b>CLOSED</b>
	<b>CLOSE</b>	TR2SH gate	
<input type="checkbox"/>	<b>VERIFY</b>	At TR2SH gate box Door Closed light is	<b>ON</b>
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees TR2SH gate</u>	<b>CLOSED</b>
<input type="checkbox"/>	<b>VERIFY</b>	At TR2SH gate box Gate Reset light is	<b>ON</b>

<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees TR2SH gate Div A <input type="checkbox"/> and Div B <input type="checkbox"/></u>	<u>NOT RESET</u>
	<b>RESET</b>	TR2SH gate at TR2SH gate box with Key # MS11	
<input type="checkbox"/>	<b>VERIFY</b>	At TR2SH gate box Gate Reset light is	ON
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees TR2SH gate Div A <input type="checkbox"/> and Div B <input type="checkbox"/></u>	<u>RESET</u>
	<b>OPEN</b>	<u>TR2SH gate and hold open</u>	
<input type="checkbox"/>	<b>VERIFY</b>	At TR2SH gate box Gate Reset light is	OFF
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees TR2SH gate</u>	OPEN
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees TR2SH gate Div A <input type="checkbox"/> and Div B <input type="checkbox"/></u>	<u>NOT RESET</u>
	<b>CLOSE</b>	TR2SH gate	

☐ Check for acceptance of Test of Target Room 2 Shield (TR2SH) Door.

**1.6 Test of EE Passageway (EEPSG) Door:**

<input type="checkbox"/>	<b>VERIFY</b>	EEPSG gate has been inspected	
	<b>OPEN</b>	EEPSG gate	
	<b>CLOSE</b>	Div A MS	
<input type="checkbox"/>	<b>VERIFY</b>	At EEPSG gate box Door Closed light	OFF
<input type="checkbox"/>	<b>VERIFY</b>	<u>Tandem Control Room (TCR) sees EEPSG gate</u>	OPEN
	<b>OPEN</b>	<u>Div A MS</u>	
<input type="checkbox"/>	<b>VERIFY</b>	At EEPSG gate box Door Closed light	OFF
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees EEPSG gate</u>	OPEN
	<b>CLOSE</b>	Div B MS	
<input type="checkbox"/>	<b>VERIFY</b>	At EEPSG gate box Door Closed light	OFF
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees EEPSG gate</u>	CLOSED
	<b>OPEN</b>	<u>Div B MS</u>	
<input type="checkbox"/>	<b>VERIFY</b>	At EEPSG gate box Door Closed light	OFF
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees EEPSG gate</u>	OPEN
	<b>CLOSE</b>	Div A and Div B MS	
<input type="checkbox"/>	<b>VERIFY</b>	At EEPSG gate box Door Closed light is	ON
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees EEPSG gate</u>	CLOSED
	<b>CLOSE</b>	EEPSG gate	
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees EEPSG gate</u>	CLOSED
<input type="checkbox"/>	<b>VERIFY</b>	At EEPSG gate box Gate Reset light is	OFF
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees EEPSG gate Div A <input type="checkbox"/> and Div B <input type="checkbox"/></u>	<u>NOT RESET</u>
	<b>RESET</b>	EEPSG gate at EEPSG gate box with Key # MS11	
<input type="checkbox"/>	<b>VERIFY</b>	At EEPSG gate box Gate Reset light is	ON
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees EEPSG gate Div A <input type="checkbox"/> and Div B <input type="checkbox"/></u>	<u>RESET</u>
	<b>OPEN</b>	<u>EEPSG gate and hold open</u>	

- |                          |               |   |                         |
|--------------------------|---------------|---|-------------------------|
| <input type="checkbox"/> | <b>VERIFY</b> | At EEPG gate box <b>Gate Reset</b> light is   | <b>OFF</b>              |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees EEPG gate</u>   | <b>OPEN</b>             |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees EEPG gate Div A <input type="checkbox"/> and Div B <input type="checkbox"/></u> | <b><u>NOT RESET</u></b> |
|                          | <b>CLOSE</b>  | EEPG gate   |                         |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees EEPG gate</u>   | <b>CLOSED</b>           |

- ☐ Check for acceptance of Test of EE Passageway (EEPG) Door.

**1.7 Test of TCR Plenum (TCRPL) and TCR Shield (TCRSH) Doors:**

- |                          |               |   |                         |
|--------------------------|---------------|---|-------------------------|
| <input type="checkbox"/> | <b>VERIFY</b> | TCR doors have been inspected   |                         |
|                          | <b>OPEN</b>   | TCR SH door and <b>Hold open</b>  |                         |
|                          | <b>OPEN</b>   | TCRPL door and <b>Test MSs</b>  |                         |
|                          | <b>CLOSE</b>  | Div A MS  |                         |
| <input type="checkbox"/> | <b>VERIFY</b> | At TCR gate box <b>Plenum Door Closed</b> light   | <b>OFF</b>              |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>Tandem Control Room (TCR) sees CR gate</u>   | <b>OPEN</b>             |
|                          | <b>OPEN</b>   | <u>Div A MS</u>   |                         |
| <input type="checkbox"/> | <b>VERIFY</b> | At TCR gate box <b>Plenum Door Closed</b> light   | <b>OFF</b>              |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees CR gate</u>   | <b>OPEN</b>             |
|                          | <b>CLOSE</b>  | Div B MS  |                         |
| <input type="checkbox"/> | <b>VERIFY</b> | At TCR gate box <b>Plenum Door Closed</b> light   | <b>OFF</b>              |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees CR gate</u>   | <b>OPEN</b>             |
|                          | <b>OPEN</b>   | <u>Div B MS</u>   |                         |
| <input type="checkbox"/> | <b>VERIFY</b> | At TCR gate box <b>Plenum Door Closed</b> light   | <b>OFF</b>              |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees CR gate</u>   | <b>OPEN</b>             |
|                          | <b>CLOSE</b>  | Div A and Div B MS  |                         |
| <input type="checkbox"/> | <b>VERIFY</b> | At TCR gate box <b>Plenum Door Closed</b> light is  | <b>ON</b>               |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees CR gate</u>   | <b>OPEN</b>             |
|                          | <b>CLOSE</b>  | TCRPL door  |                         |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees CR gate</u>   | <b>OPEN</b>             |
|                          | <b>RESET</b>  | TCR doors at TCR gate box with <b>Key # MS11</b>  |                         |
| <input type="checkbox"/> | <b>VERIFY</b> | At TCR gate box <b>Gate Reset</b> light is  | <b>OFF</b>              |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees CR gate Div A <input type="checkbox"/> and Div B <input type="checkbox"/></u> | <b><u>NOT RESET</u></b> |
|                          | <b>OPEN</b>   | <u>TCRPL Door and hold open</u>   |                         |
|                          | <b>OPEN</b>   | TCR Shield door and <b>Test MSs</b>   |                         |
|                          | <b>CLOSE</b>  | Div A MS  |                         |
| <input type="checkbox"/> | <b>VERIFY</b> | At TCR gate box <b>Shield Door Closed</b> light   | <b>OFF</b>              |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees CR gate</u>   | <b>OPEN</b>             |
|                          | <b>OPEN</b>   | <u>Div A MS</u>   |                         |
| <input type="checkbox"/> | <b>VERIFY</b> | At TCR gate box <b>Shield Door Closed</b> light   | <b>OFF</b>              |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees CR gate</u>   | <b>OPEN</b>             |



	<b>CLOSE</b>	Div B MS	
<input type="checkbox"/>	<b>VERIFY</b>	At TCR gate box <b>Shield Door Closed</b> light	<b>OFF</b>
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees CR gate</u>	<b>OPEN</b>
	<b>OPEN</b>	<u>Div B MS</u>	
<input type="checkbox"/>	<b>VERIFY</b>	At TCR gate box <b>Shield Door Closed</b> light	<b>OFF</b>
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees CR gate</u>	<b>OPEN</b>
	<b>CLOSE</b>	Div A and Div B MS	
<input type="checkbox"/>	<b>VERIFY</b>	At TCR gate box <b>Shield Door Closed</b> light is	<b>OFF</b>
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees CR gate</u>	<b>OPEN</b>
	<b>CLOSE</b>	TCR Shield door	
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees CR gate</u>	<b>OPEN</b>
	<b>RESET</b>	TCR gate at TCR gate box with Key # MS11	
<input type="checkbox"/>	<b>VERIFY</b>	At TCR gate box <b>Gate Reset</b> light is	<b>OFF</b>
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees CR gate Div A <input type="checkbox"/> and Div B <input type="checkbox"/></u>	<b><u>NOT RESET</u></b>
	<b>CLOSE</b>	<u>TCRPL Door</u>	
<input type="checkbox"/>	<b>VERIFY</b>	At TCR gate box <b>Plenum Door Closed</b> light is	<b>ON</b>
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees CR gate</u>	<b>CLOSED</b>
<input type="checkbox"/>	<b>VERIFY</b>	At TCR gate box <b>Gate Reset</b> light is	<b>OFF</b>
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees CR gate Div A <input type="checkbox"/> and Div B <input type="checkbox"/></u>	<b><u>NOT RESET</u></b>
	<b>RESET</b>	TCR gate at TCR gate box with Key # MS11	
<input type="checkbox"/>	<b>VERIFY</b>	At TCR gate box <b>Gate Reset</b> light is	<b>ON</b>
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees CR gate Div A <input type="checkbox"/> and Div B <input type="checkbox"/></u>	<b><u>RESET</u></b>
	<b>OPEN</b>	<u>TCRPL Door and hold open</u>	
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees CR gate</u>	<b>OPEN</b>
<input type="checkbox"/>	<b>VERIFY</b>	At TCR gate box <b>Gate Reset</b> light is	<b>OFF</b>
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees CR gate Div A <input type="checkbox"/> and Div B <input type="checkbox"/></u>	<b><u>NOT RESET</u></b>
	<b>CLOSE</b>	TCRPL Door	
<input type="checkbox"/>	<b>VERIFY</b>	At TCR gate box <b>Plenum Door Closed</b> light is	<b>ON</b>
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees CR gate</u>	<b>CLOSED</b>
	<b>RESET</b>	TCR gate at TCR gate box with Key # MS11	
<input type="checkbox"/>	<b>VERIFY</b>	At TCR gate box <b>Gate Reset</b> light is	<b>ON</b>
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees CR gate Div A <input type="checkbox"/> and Div B <input type="checkbox"/></u>	<b><u>RESET</u></b>
	<b>OPEN</b>	<u>TCRSH Door and hold open</u>	
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees CR gate</u>	<b>OPEN</b>
<input type="checkbox"/>	<b>VERIFY</b>	At TCR gate box <b>Gate Reset</b> light is	<b>OFF</b>
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees CR gate Div A <input type="checkbox"/> and Div B <input type="checkbox"/></u>	<b><u>NOT RESET</u></b>
	<b>CLOSE</b>	TCRSH Door	
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees CR gate</u>	<b>CLOSED</b>

☐ Check for acceptance of Test of TCR Plenum (TCRPL) and TCR Shield (TCRSH) Doors.

<b>1.8 Test of MER Escape (MERES) and MER Shield (MERSH) Doors:</b>			
<input type="checkbox"/>	<b>VERIFY</b>	MER doors have been inspected	
	<b>OPEN</b>	MER Shield door and keep open	
	<b>OPEN</b>	MER Escape door and Test MSs	
	<b>CLOSE</b>	Div A MS	
<input type="checkbox"/>	<b>VERIFY</b>	At MER gate box Escape Door Closed light	OFF
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees Mechanical Room (MR) gate</u>	OPEN
	<b>OPEN</b>	<u>Div A MS</u>	
<input type="checkbox"/>	<b>VERIFY</b>	At MER gate box Escape Door Closed light	OFF
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees MR gate</u>	OPEN
	<b>CLOSE</b>	Div B MS	
<input type="checkbox"/>	<b>VERIFY</b>	At MER gate box Escape Door Closed light	OFF
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees MR gate</u>	OPEN
	<b>OPEN</b>	<u>Div B MS</u>	
<input type="checkbox"/>	<b>VERIFY</b>	At MER gate box Escape Door Closed light	OFF
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees MR gate</u>	OPEN
	<b>CLOSE</b>	Div A and Div B MS	
<input type="checkbox"/>	<b>VERIFY</b>	At MER gate box Escape Door Closed light is	ON
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees MR gate</u>	OPEN
	<b>CLOSE</b>	MER Escape door	
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees MR gate</u>	OPEN
	<b>RESET</b>	MER doors at MER gate box with Key # MS11	
<input type="checkbox"/>	<b>VERIFY</b>	At MER gate box Gate Reset light is	OFF
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees MR gate Div A <input type="checkbox"/> and Div B <input type="checkbox"/></u>	<u>NOT RESET</u>
	<b>OPEN</b>	<u>MER Escape Door and hold open</u>	
	<b>OPEN</b>	MER Shield door and Test MSs	
	<b>CLOSE</b>	Div A MS	
<input type="checkbox"/>	<b>VERIFY</b>	At MER gate box Shield Door Closed light	OFF
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees MR gate</u>	OPEN
	<b>OPEN</b>	<u>Div A MS</u>	
<input type="checkbox"/>	<b>VERIFY</b>	At MER gate box Shield Door Closed light	OFF
	<b>CLOSE</b>	Div B MS	
<input type="checkbox"/>	<b>VERIFY</b>	At MER gate box Shield Door Closed light	OFF
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees MR gate</u>	OPEN
	<b>OPEN</b>	<u>Div B MS</u>	
<input type="checkbox"/>	<b>VERIFY</b>	At MER gate box Shield Door Closed light	OFF
	<b>CLOSE</b>	Div A and Div B MS	
<input type="checkbox"/>	<b>VERIFY</b>	At MER gate box Shield Door Closed light is	ON
<input type="checkbox"/>	<b>VERIFY</b>	<u>TCR sees MR gate</u>	OPEN
	<b>CLOSE</b>	MER Shield door	

- |                          |               |   |                  |
|--------------------------|---------------|---|------------------|
|                          | <b>RESET</b>  | MER gate at MER gate box with Key # MS11  |                  |
| <input type="checkbox"/> | <b>VERIFY</b> | At MER gate box Gate Reset light is   | OFF              |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees MR gate</u>   | OPEN             |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees MR gate Div A <input type="checkbox"/> and Div B <input type="checkbox"/></u> | <u>NOT RESET</u> |
|                          | <b>CLOSE</b>  | <u>MER Escape Door</u>  |                  |
| <input type="checkbox"/> | <b>VERIFY</b> | At MER gate box Escape Door Closed light is   | ON               |
| <input type="checkbox"/> | <b>VERIFY</b> | At MER gate box Shield Door Closed light is   | ON               |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees MR gate</u>   | CLOSED           |
| <input type="checkbox"/> | <b>VERIFY</b> | At MER gate box Gate Reset light is   | OFF              |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees CR gate Div A <input type="checkbox"/> and Div B <input type="checkbox"/></u> | <u>NOT RESET</u> |
|                          | <b>RESET</b>  | MER gate at MER gate box with Key # MS11  |                  |
| <input type="checkbox"/> | <b>VERIFY</b> | At MER gate box Gate Reset light is   | ON               |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees MR gate</u>   | CLOSED           |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees MR gate Div A <input type="checkbox"/> and Div B <input type="checkbox"/></u> | <u>RESET</u>     |
|                          | <b>OPEN</b>   | <u>MER Escape Door and hold open</u>  |                  |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees MR gate</u>   | OPEN             |
| <input type="checkbox"/> | <b>VERIFY</b> | At MER gate box Gate Reset light is   | OFF              |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees CR gate Div A <input type="checkbox"/> and Div B <input type="checkbox"/></u> | <u>NOT RESET</u> |
|                          | <b>CLOSE</b>  | MER Escape Door   |                  |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees MR gate</u>   | CLOSED           |
| <input type="checkbox"/> | <b>VERIFY</b> | At MER gate box Gate Reset light is   | OFF              |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees CR gate Div A <input type="checkbox"/> and Div B <input type="checkbox"/></u> | <u>NOT RESET</u> |
|                          | <b>RESET</b>  | MER gate at MER gate box with Key # MS11  |                  |
| <input type="checkbox"/> | <b>VERIFY</b> | At MER gate box Gate Reset light is   | ON               |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees MR gate Div A <input type="checkbox"/> and Div B <input type="checkbox"/></u> | <u>RESET</u>     |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees MR gate</u>   | CLOSED           |
|                          | <b>OPEN</b>   | <u>MER Shield Door and hold open</u>  |                  |
| <input type="checkbox"/> | <b>VERIFY</b> | At MER gate box Gate Reset light is   | OFF              |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees CR gate Div A <input type="checkbox"/> and Div B <input type="checkbox"/></u> | <u>NOT RESET</u> |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees MR gate</u>   | OPEN             |
|                          | <b>CLOSE</b>  | MER Shield Door   |                  |
| <input type="checkbox"/> | <b>VERIFY</b> | <u>TCR sees MR gate</u>   | CLOSED           |
- ☐ Check for acceptance of Test of MER Escape (MERES) and MER Shield (MERSH) Doors.

#### END OF TEST PROCEDURE

TTL: Sign for completion of initial testing: \_\_\_\_\_

Date: \_\_\_\_/\_\_\_\_/\_\_\_\_

TTL: Sign for completion of final testing: \_\_\_\_\_

Date: \_\_\_\_/\_\_\_\_/\_\_\_\_